using drugs or antibodies improves responses to cancer immunotherapy. However, the selective elimination or inactivation of Tregs constitutes a major challenge because these cells share the same surface markers as activated conventional, nonsuppressive T cells. Antibody-based approaches, for example, indistinguishably target both Tregs and activated effector T lymphocytes.

[0005] The use of an anti-cancer vaccine containing CRCL (Chaperone Rich Cell Lysate) has been shown to provide immunostimulatory effects. The CRCL is generated from tumor cell lysates by an isoelectric focusing technique. CRCL-treated dendritic cells and macrophages resist Treg inhibition and retain the production of pro-inflammatory cytokines and immunostimulatory potential. However, a direct effect of CRCL on Treg seems to be unlikely since the survival of Treg, FoxP3 expression and immunosuppressive function is maintained following exposure to CRCL.

[0006] Several chemotherapeutic agents (i.e. cyclophosphomide, imatinib mesylate) have been described as the negative modulators of Treg function further improving cancer vaccine efficacy. Adoptive transfer of allogeneic T cells may also increase the efficacy of tumor immunotherapy by providing adjuvant "danger" signals to the host immune cells. This effect partly stems from cytokine production by activated T lymphocytes, which foster the development of protective type-1 immune responses. However, the effects of type I cytokines, including IFN-γ, on Treg have been inconsistent. As an essential effector cytokine for cell-mediated immunity, exogenous or autocrine IFN-γ can negatively regulate Treg generation. In parallel with this concept, other studies have found that IFN-γ enhances activation-induced cell death and that this cytokine might regulate the expansion and persistence of effector T cells by enhancing intrinsic and extrinsic pathway-dependent apoptosis.

SUMMARY

[0006a] In one aspect, the present disclosure refers to the use of activated Th1 cells in the manufacture of a pharmaceutical composition for treating a disease selected from the group consisting of hematological malignancies and cancers that generate tumors present in breast, lung, liver, stomach, skin or pancreas, by suppressing immune tolerance and promoting a therapeutic effect in a patient with the disease, wherein the

activated Th1 cells are to be administered with disease antigens from the disease, wherein the pharmaceutical composition further comprises exogenous IFNγ; wherein the Th1 cells and the disease antigens are to be administered at the same location, the activated Th1 cells being allogeneic Th-1 cells and decreasing the immunosuppressive activity of Treg cells, wherein decreasing the activity of the Treg cells: i) reduces the immune tolerance of the disease antigens in the patient, ii) induces a therapeutic effect against the disease in the patient, or iii) reduces the immunosuppressive functions in the patient, and wherein the Treg cells are CD4+CD25+FoxP3+.

[0007] In one example, the present disclosure relates to a method of suppressing immune tolerance of a disease in a patient. The method includes decreasing the immunosuppressive activity of Treg cells by administering a therapeutic composition comprising allogeneic Th1 cells to a

What is claimed is:

1. Use of activated Th1 cells in the manufacture of a pharmaceutical composition for treating a disease selected from the group consisting of hematological malignancies and cancers that generate tumors present in breast, lung, liver, stomach, skin or pancreas, by suppressing immune tolerance and promoting a therapeutic effect in a patient with the disease,

wherein the activated Th1 cells are to be administered with disease antigens from the disease,

wherein the pharmaceutical composition further comprises exogenous IFNγ,

wherein the Th1 cells and the disease antigens are to be administered at the same location, the activated Th1 cells being allogeneic Th-1 cells and decreasing the immunosuppressive activity of Treg cells, wherein decreasing the activity of the Treg cells: i) reduces the immune tolerance of the disease antigens in the patient, ii) induces a therapeutic effect against the disease in the patient, or iii) reduces the immunosuppressive functions in the patient, and

wherein the Treg cells are CD4+CD25+FoxP3+.

2. The use according to claim 1, wherein the suppressive activity of the Treg cells is inhibited by decreasing the conversion of naïve T cells (CD4+CD25-FoxP3-) to Treg cells.

3. The use according to claim 2, wherein the decreasing of the immunosuppressive activity of the Treg cells is achieved by inhibition of nTreg cells.

4. The use according to claim 1, wherein the Th1 cells and the disease antigens are to be administered by intradermal injections; and/or

the activated Th1 cells are to be administered prior to the disease antigens.

5. The use according to claim 1, wherein the Th1 cells are allogeneic emTh-1 cells.

6. The use according to claim 1, wherein the disease antigens is from chaperone rich cell lysate.

7. The use according to claim 1, wherein the Th1 cells and the disease antigens are to be administered at least 3 times and at intervals of 3-10 days until the patient exhibits a therapeutic effect.

8. The use according to claim 1, wherein the disease antigens is provided in a form of lysates associated with the disease antigens.

9. The use according to claim 1, wherein the pharmaceutical composition further comprises:

i) components that interact and reduce the activity of TGF-beta; or

ii) CD40L.